



File
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Subject: 1998 Safety Inspections
Sullivan Lake RD Mine Workings

To: District Ranger, Sullivan Lake

Tim Bertram requested my participation in the inspection of several mine workings on the Sullivan Lake Ranger District during August 24-26, 1998. These included workings of the Hoage, Giant, Lead Hill, Whoopie, Lakeview and Oriole mines. The visit was scheduled to accompany district specialists underground, examine the potential hazard of the workings to the general public and Forest Service employees and the use or potential use of the working by wildlife, especially bats. I was involved to assure the safety of all participants and assess the condition and safety concerns of the mines.

Description of the Workings

Hoage This property occupies reserved Forest Service lands (such lands are open to location under the General Mining laws). The mine workings and surrounding lands are included in the JS lode claim group and Limestone Assoc[iation] placer claims (both owned by Continental Lime Inc., 670 E 3900 S #205, Salt Lake City, UT 84107). Annual fees/work have been filed through 1998 for all of these claims (BLM 5/18/98 microfiche).

Only the longer of two adits known on the property is still accessible and was examined. This is located in Section 22, CS/2, T40N, R43E. The adit heads N3W for 44 m (144 ft) in competent limestone and dolomite. Near the face a poorly covered, flooded winze (underground shaft) is inclined westward. Just beyond is a stoped area (3x2.5x10 m) with a short drift (7 m) and raise (overhead opening, 10 m). Generally the adit's portal (mouth), ribs (walls) and back (ceiling) are solid and stable. Air circulation is minimal but the atmosphere was oxygenated and non-toxic at the time of the visit. The winze presents a potential drowning hazard to unwary explorers. No explosives or hazardous or unknown materials were noted on the premise. Nor bats were present. Access by hunters or recreationists is relatively easy due to its proximity to paved County Road 2975.

Giant This property occupies reserved Forest Service lands. The mine workings and surrounding lands appear to be included in the Giant group of 3 lode claims owned by Metaline Contact Mines, 135 Cameron Ave., Kellogg, ID 83837. Annual fees/work have been filed thorough 1998 (BLM 5/18/98 microfiche).

Two adits driven northeastward lie just east of County Road 2975, Section 22, NE/4SW/4, T40N, R43E. A third opening southeast of these may be a natural feature. The main adit, nearest the road, extends about S60W straight to the face, a distance of 114 m (373 ft). Shallow water covers the sill (floor) of the adit for the first 20 m or so. The second working lies some 40 m northeast and is driven N65E for 15 m (50 ft). A 2-meter crosscut extends north off this drift 8 m from the portal. Generally the portals, ribs and backs of these workings are solid and stable. Air circulation is minimal but the atmosphere was oxygenated and non-toxic on this visit. No explosives or hazardous or unknown materials were noted on the premise. No bats were



observed. Due to the visibility of the workings from the county road they likely attract greater attention from the public than less accessible sites.

Lead Hill Six mine openings were examined on Lead Hill, all on reserved Forest Service lands. The workings and environs are included in two mining claim groups: the Lead Metal group owned by Losota-Jones Lead, 646 108th SE, Bellevue, WA 98004; and the Slate Creek group owned by Cominco American Inc., E 15120 Euclid Ave., Spokane, WA 99216. Annual fees/work have been filed thorough 1998 for both groups (BLM 5/18/98 microfiche). Access to the site is via a long, rugged mountain road. Because of the remoteness of the property casual explorers are probably limited to a few hunters and recreationists.

The Lead Hill workings are extensive and consist of over 3,000 square meters of crosscuts, drifts, large open stopes, winzes, shafts and raises on Lead Hill, Section 14, NE/4, T40N, R44E. Some stopes (openings left when ore is removed) are 35 m across and 6 m high. Except near some portals these workings are not supported. Several workings lie one atop the other, connected by funnel-shaped winzes and raises. Two of the adits are gated with woven-wire steel fencing. Both closures have been vandalized and allow human access. Large, shallow ponds of water occupy portions of some stopes. Above the easternmost open adit a 0.5 m diameter hole in the road surface opens into a raise that plunges steeply to the adit below. Ventilation is good in many of the workings because of multiple openings. Stability is a concern, especially near the portals or collars and in the larger rooms. Unwary explorers are subject to falling or sliding down chutes and raises and fill slopes. No explosives or hazardous or unknown materials were noted on the premise. No bats were observed during the investigation.

Whoopie This prospect occupies reserved Forest Service lands. Any mining claims that may have included the Whoopie adit and cabin have been abandoned (BLM 5/18/98 microfiche).

The Whoopie prospect is located on a closed spur road off the Slate Creek road, Section 22, SW/4NE/4, T40N, R44E. Access is poor due to the windfall across the road and the berm closure at Slate Creek road. Two adits are known, the eastern one fully caved and inaccessible. The western adit, situated near a small cabin, is a short, 13 m adit running due north. Timber sets near the portal have collapsed but the working is still open where it encounters solid rock. A huge pack rat nest occupies the mouth of the adit. No explosives or hazardous or unknown materials were noted on the premise. Nor were any bats noted during the examination.

Lakeview This prospect occupies reserved Forest Service lands. Any mining claims that may have included the workings have been abandoned (BLM 5/18/98 microfiche).

The main Lakeview adit is about 700 feet northwest of Crescent Lake in Section 1, SE/4SW/4, T40N, R43E. Access is poor due to the deteriorating condition of the original mine road. The adit heads N28W for some 83 m (272 ft). The bedded dolomite host rock is solid to a point 61 m from the portal, where it encounters a major fault. Beyond the fault the rock is strongly fractured, altered and mineralized. A short, curving drift with stubby branches explores this zone. No explosives or hazardous or unknown materials were noted on the premise; nor were any bats observed. Air circulation is minimal but the atmosphere was oxygenated and non-toxic on this visit.

A second adit is located about 76 m (250 ft) southwest of the main working. This adit is almost fully caved and is not accessible. It heads approximately 8 m (26 ft) N33E.



Oriole This property occupies reserved Forest Service lands in Section 19, SE/4SE/4, T39N, R43E. Any mining claims that may have included the workings and buildings of the Oriole have been abandoned (BLM 5/18/98 microfiche). The property is located within a few miles of Metaline and Metaline Falls. The mine road is drivable by high clearance vehicles and is probably known and visited by many of the local residents.

The Oriole includes several adits, pits, open stopes, waste rock piles and other structures including buildings and an ore bin/chute, all in various states of disrepair. The main entry and lowest adit (2,800 ft elev.) is almost fully caved. Timber sets and lagging at the portal are in bad condition and support dangerous quantities of loose overburden.

About 97 m (280 ft) west of the main adit is a second adit and large waste rock dump (elev. 2,875 ft). The portal is open and in fair condition. This working heads N35W and includes some 185 m (605 ft) of crosscuts and drifts. Sixty seven meters (220 ft) from the portal a strong cross-cutting fault zone is intersected. A southwest heading drift follows this zone for 17 m. Due to weak, clayey gouge seams this area is very unstable. The dolomite host rock in the remaining parts of the working is moderately to strongly fractured but is holding up moderately well. Ninety meters (300 ft) from the portal a northwest trending quartz-sulfide vein has been stoped above and below the sill along a length of 14 and 7 m, respectively. The open stopes are 1.3-2 m wide (top to bottom), dip steeply northward (50°) and are supported only by scattered stulls. The overhead stope likely connects with stopes open at the surface (2,950 ft elev.), probably the location of original discovery. Similarly it is expected that the sill stope extends to the depth of the lower adit. Hazards for the unwary include falling into these openings or being hit by falling debris from above. Ventilation is fair in most of the working. No explosives or hazardous or unknown materials were noted nor bats observed during the site examination.

A third adit was discovered by John Ogmundson across the draw from the main adit, near several building remains. The portal is nearly covered by moss and roots. The working heads S30E for 22 m (72 ft) in heavily fractured dolomite. Small rock fragments have ravelled from the ribs and back, accumulating in piles along the base of the ribs. Although no large masses have fallen to date the ground is inherently unstable. No explosives or hazardous or unknown materials were noted nor bats observed in this adit.

Safety Assessment and Recommendations

Physical hazards associated with many of the workings examined include moderate to high potential for falling rock, failing ground-support timbers and partial caving. Potential for falling accidents are present at the Lead Hill and Oriole mines in particular. Although ventilation was variable bad air was not encountered in any of the workings. However this could be altered with changing surface and environmental conditions. Dangerous animals were not present, however, small mammals especially pack rats and/or bats use or have used most of the workings and present a small potential for encountering related diseases.

The following table summarizes the relative risks and hazards associated with the mine properties examined.



Table 1. Mine Property Risk Assessment

PROPERTY	ACCESS- IBILITY ¹	FALLING HAZARDS	COLLAPSE/ FALLING DEBRIS	WATER HAZAR- D	BAD AIR HAZARD	WILDLIFE & INSECTS HAZARD	MINING CLAIMS?	TOTAL ²
Hoage	4	1	1	2	2	2	Y	16
Giant	5	1	1	1	3	2	Y	18
Lead Hill	2	5	3	2	2	2	Y	18
Whoopie	1	1	3	1	2	2	N	11
Lakeview	1	1	2	1	2	3	N	11
Oriole	4	4	3	1*	2	2	N	20

¹This represents the ease with which the public might find and enter the subject workings. This number is doubled before adding to other risk factors.

²Sum of estimated potential site risk factors. The accessibility factor is doubled relative to the other factors. Larger numbers represent greater relative risk.

*The main adit was not entered but may contain water hazards as water was discharging from its collapsed portal.

Based upon the above analysis I recommend that the district place their priority for closure on the Oriole followed by the Giant and Lead Hill sites. Where mining claims are present it is the claimants responsibility to protect the public (this could involve access road closure). Where underground workings need to be gated we should work with the claimant if we desire specific closures (eg, bat-friendly gates). I also recommend that surface reclamation work be considered for abandoned mine sites. I would be glad to work with you in developing reclamation plans and, where necessary preliminary site assessments (for sites having potential contaminated discharge or hazardous waste).

/s/Rod Lentz
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Area Mining Geologist

CC:G.Koehn